

CLAIMS

What is claimed is:

1. A method for identifying a compound affecting the MAPK pathway comprising the steps of:
 - 5 a) providing a cell stably transfected with a recombinant construct, said recombinant construct comprising a polynucleotide encoding a reporter gene, wherein said reporter gene operatively linked to the *c-fos* promoter;
 - b) contacting said cell with a compound; and
 - c) detecting a change in expression of said reporter gene;10 whereby a compound affecting the MAPK pathway is identified by detecting the change in expression of said reporter gene under control of the *c-fos* promoter.
2. A method of claim 1, wherein said reporter gene is the luciferase gene.
3. A method of claim 1 or 2, wherein said compound inhibits the MAPK pathway.
4. A method of claim 1 or 2, wherein said compound activates the MAPK pathway.
- 15 5. A method of claim 3, wherein said cell constitutively expresses low levels of invasion-associated genes, whereby stimulation of said invasion-associated genes occurs via activation of the MAPK pathway.
6. A method of claim 4, wherein said cell constitutively expresses low levels of invasion-associated genes, whereby stimulation of said invasion-associated genes occurs via activation of the MAPK pathway.
- 20 7. A method of claim 3, wherein said cell is weakly tumorigenic, whereby *c-ets-1* mRNA expression is activated exclusively via the MAPK pathway in said cell.
8. A method of claim 4, wherein said cell is weakly tumorigenic, whereby *c-ets-1* mRNA expression is activated exclusively via the MAPK pathway in said cell.
- 25 9. A method of claim 3, wherein said cell is a SNB-19 glioma cell.

10. A method of claim 4, wherein said cell is a SNB-19 glioma cell.

11. A method of claim 1, wherein the change in expression of said reporter gene is detected as a change in said reporter gene mRNA expression.

12. A method of claim 1, wherein the change in expression of said reporter gene is
5 detected as a change in said reporter gene protein expression.

13. A method of claim 1, wherein the change in expression of said reporter gene is detected as a change in said reporter gene enzyme activity.

14. The method of claim 1, wherein the time course of the change in expression of said reporter gene corresponds to the time course of a change in *c-fos* gene expression.

10 15. The method of claim 1, wherein said recombinant construct further comprises at least a portion of the *c-fos* 3'-untranslated region sequence downstream of said reporter gene sufficient to cause the change in reporter gene expression to correspond to the change in the expression of *c-fos*.

16. A cell comprising a recombinant construct responsive to modulators of the MAPK pathway, wherein said recombinant construct comprises a polynucleotide encoding a reporter gene operatively linked to the *c-fos* promoter.

15 17. A cell of claim 16, wherein said reporter gene is the luciferase gene.

18. A cell of claim 16 or 17, wherein said recombinant construct is responsive to inhibitors of the MAPK pathway.

20 19. A cell of claim 16 or 17, wherein said recombinant construct is responsive to activators of the MAPK pathway.

20. A cell of claim 16 or 17, wherein said cell constitutively expresses low levels of invasion-associated genes, whereby stimulation of said invasion-associated genes occurs via activation of the MAPK pathway.

21. A cell of claim 16 or 17, wherein said cell is weakly tumorigenic, whereby c-ets-1 mRNA expression is activated exclusively via the MAPK pathway in said cell.

22. A cell of claim 16 or 17, wherein said cell is a SNB-19 glioma cell.

23. A cell of claim 16 or 17, wherein the time course of a change of expression of said reporter gene corresponds to the time course of a change in *c-fos* expression.

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24. A cell of claim 16 or 17, wherein said recombinant construct further comprises at least a portion of the *c-fos* 3'-untranslated region sequence downstream of said reporter gene sufficient to cause reporter gene expression to correspond to the expression of *c-fos*.

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